

**Emergency Stop Unit and  
Safety Gate Monitor**  
In accordance with VDE 0113,  
IEC 204-1 and BS 2771

## Description

- 135 mm P-75 Housing, DIN-Rail Mounting.
- Feedback control loop for monitoring external contactors/relays which increase the number of contacts available.
- Connections:
  - Emergency stop button or
  - Safety gate limit switch
  - Safety switch to incorporate into the safety circuit.
- 3 LEDs
  - Mains
  - Channels 1 and 2 status indicator.
- Relay output: positive-guided  
5 N/O + 1 N/C + 1 N/O (Fleeting).

## Special Features

- Fleeting contact
- 24 V= at the emergency stop buttons
- Approvals:



TÜV Rheinland

SUVA



A-ET 89108

## Order Reference

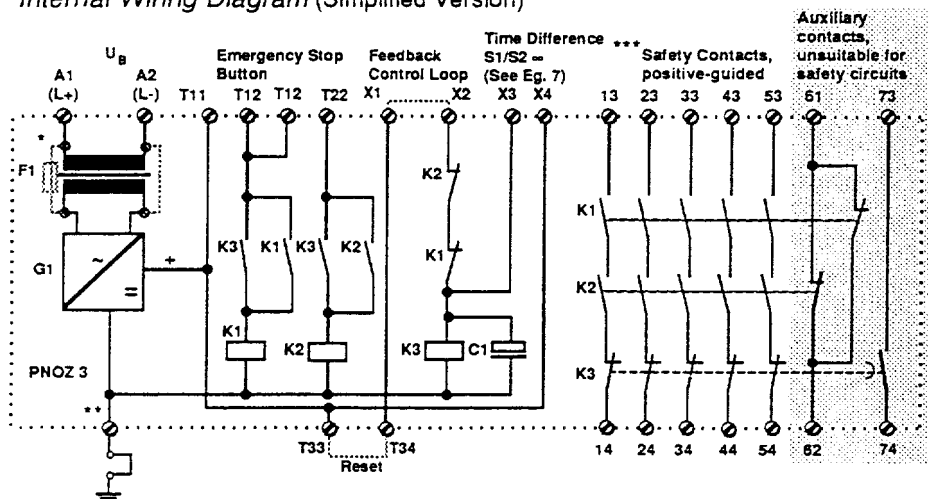
PNOZ 3/110 V~

Operating Voltage  
P-75 Range  
Emergency Stop Unit or Safety Gate Monitor

## \* Electronic Fuse

PNOZ units with AC operating voltage have a shortcircuit proof transformer (approved to DIN VDE 0551) and the internal bridges are removed. In the event of an external earth fault, the supply voltage fails and the output contacts open.

## Internal Wiring Diagram (Simplified Version)



PNOZ units with DC operating voltage have internal bridges but no transformer. In the event of an input earth fault, the integrated electronic fuse causes a safety oriented opening of the output contacts and protects the unit from damage. The safety release comes into effect with fault currents  $\geq 1.2$  A. Once the cause of the disturbance is removed, the unit is ready for operation after 1s (keeping to the rated voltage) and takes up the original starting position dependent on the input conditions.

\*\*In accordance with VDE 57 100 § 60f, with AC operating voltage a detachable connection is required between unit and system earth. With DC operating voltage this connection is not necessary.

## Technical Details, PNOZ 3 (for general technical details see appendix)

Operating Voltage $U_B$	24, 42, 48, 100, 110, 115, 120, 127, 230, 240 V~; 24 V=
Voltage Tolerance $U_B$	80-110 % $U_B$ ~; 80-120 % $U_B$ =
Frequency Range $U_B$ V~	50-60 Hz
Residual Ripple $U_B$ V=	160 %
Power Consumption $U_B$	$\leq 6$ VA
Delay-on Energisation	$\leq 150$ ms
Delay-on De-Energisation K3	$\leq 90$ ms
Delay-on De-Energisation	$\leq 20$ ms
Simultaneity T11-T12, T12-T22	$\approx 75$ ms
Operating Temperature	-10 to +55 °C
Airgap Creepage	DIN VDE 1001 Part 2 Para. 8, 4 kV/3
Pulse Time on Contact 73-74	$\approx 90$ ms
Voltage/Current at T11, T34	24 V=/50 mA
Relay Contacts	5 N/O+1 N/C+1 N/O (Fleeting) AgCd O + 10 $\mu$ Au
Switching Capability	24V~/250V~/0.01-8A/2000VA/400V/4.5A (cos $\phi$ 1 or with spark suppression)
Contact Fuse Protection (VDE 0660 Pt.2)	10 A quick/6 A slow acting

## Electrical Load on the Output Contacts

A load of 24 VDC, min 10 mA is only possible when no other load has been connected through this contact.

This is always the case when gold-plated contacts are used. Once a relay and its contacts have been operated in a circuit, they cannot be used in other switching operations unless the contact loads are identical or higher.

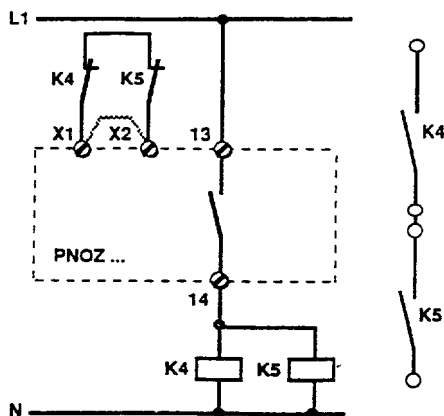
\*\*\*To prevent a welding together of the output contacts, a fuse (max. 6A slow/10A fast acting) must be connected externally.

### Feedback Control Loop (Terminals X1-X2)

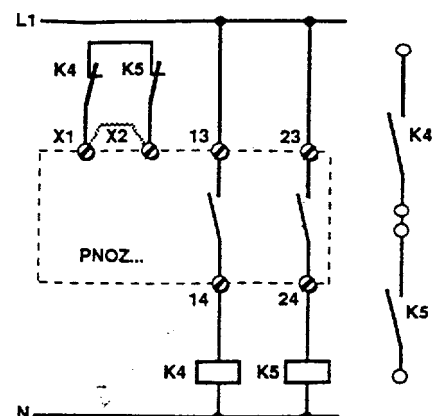
If required, the number of output contacts on the PNOZ can be increased by using external relays with positive-guided contacts. The function of the external relays may be monitored by connecting N/C contacts in series to terminals X1-X2, which are factory-equipped with a bridge. The use of 1 or 2 channel drive depends on the risk level of your machine.

### Example 8

#### 1 Channel Drive

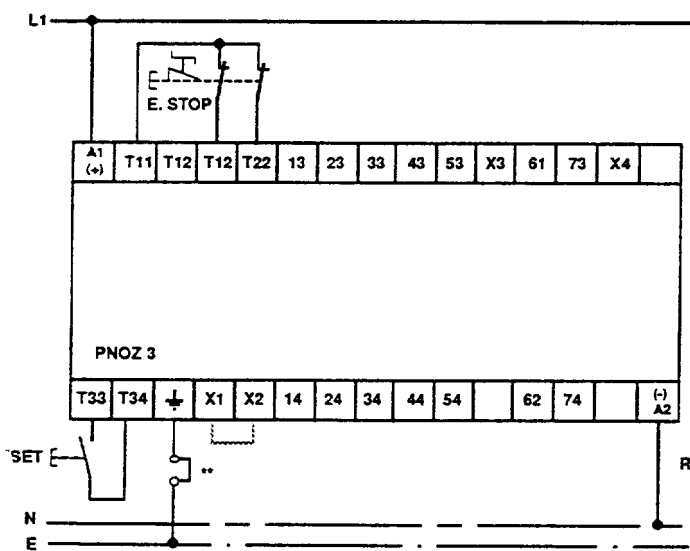


### Example 9 2 Channel Drive

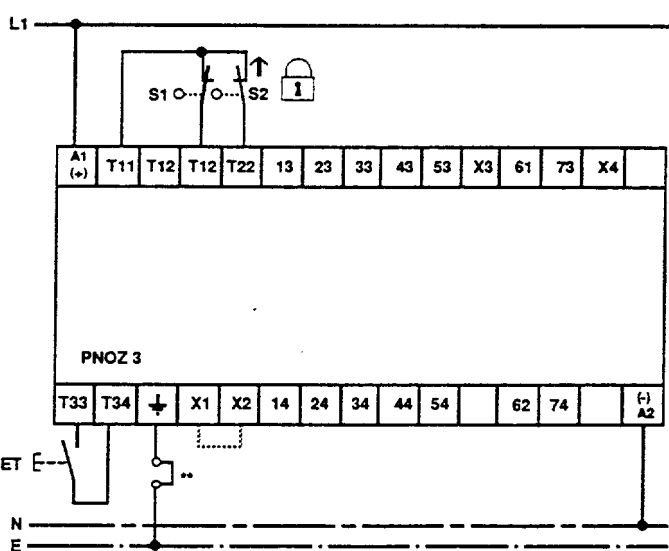


### Connection Diagrams

## 2 Channel Emergency Stop Switch



## 2 Channel Safety Gate Control



**\*\*In accordance with VDE 57 100 § 60f, with AC operating voltage a detachable connection is required between unit and system earth. With DC operating voltage this connection is not necessary.**